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Validation of the EHIS physical activity questionnaire using accelerometer and logbook data.

Background

Studies show that physical activity (PA) is positively associated with health indicators, meanwhile sedentary behavior (SB) is associated with an increased risk for all-cause mortality and morbidity. This indicates the need for the assessment of the PA and SB in Belgium. Therefore the Belgian National Food Consumption Survey 2014, not only studied the food consumption, but also the physical activity patterns in the Belgian population (3-64 year).

The most feasible and economical way to assess the PA in the population is to use a self-report method. The use of standardized questions for this purpose is recommended. Such a questionnaire has to be user friendly, but also has to have high validity and reliability.

The International Physical Activity Questionnaire (IPAQ) is a validated PA questionnaire for adults; this instrument is however not well suited for large population based surveys. This is the reason why an alternative tool has been developed to be used in the framework of the European Health Interview Survey (EHIS); it is called the EHIS physical activity questionnaire (EHISPAQ). This instrument covers three public-health-relevant domains (i) work-related physical activity, (ii) transportation activity, and (iii) leisure time physical activity. However the validity of the EHISPAQ still has to be assessed; this is the aim of the current study. The EHISPAQ will be compared with a) a golden standard, being a combination of accelerometer\(^1\) and logbook data, and b) the IPAQ. In addition, the reliability of the EHISPAQ will also be evaluated through two separated interviews.

Objective

The data has been collected among 300 adults who took part to the recent Food Consumption Survey. The goal is to analyze the data collected in order to measure the reliability and the validity of the EHISPAQ, and to compare the performance of the EHISPAQ with the IPAQ.

Literature


\(^1\) Accelerometers measure the accelerations caused by body movements in three orthogonal planes (vertical, mediolateral and anteroposterior) and result in a more valid and reliable assessment of the PA and SB. However, accelerometers have some drawbacks too: it is insensitive to certain activities like stair climbing, bicycling, etc., in addition it cannot be worn during water-based activities. Therefore activity monitoring logbooks were used as well: here all PA during the day, and also the reasons for removing the device had to written down by the participants.